

REMARKS

Claims 1-26 are currently pending in the application, of which claims 1-7, 10-14, 17-18, 20-21 and 23-26 stand rejected. Claims 2, 6-9, 13-14, 18-20 and 24 and various paragraphs of the specification have been amended to correct minor informalities. These amendments are not made for the purpose of avoiding prior art or narrowing the claimed invention, and no change in claim scope is intended. Therefore, Applicants do not intend to relinquish any subject matter by these amendments. No new matter has been added. In addition, new dependent claims 27-36 directed to more specific aspects of the invention have been added. Support for the amendments and added claims may be found at least in paragraphs [0024], [0030-0031], [0037] and [0039-0042] of the specification. For example, support for new claims 35 and 36 may be found at least in paragraph [0024], which states that "[t]he level or amount of current may vary depending on such factors as the type of bone, the size and shape of the area of the bone to be treated, and the desired amount of reduction in bone growth," and paragraph [0031].

Thus, claims 1-36 are now pending in this application. Applicants respectfully request reconsideration and withdrawal of all pending objections and rejections in view of the above amendments and following remarks.

Allowable Subject Matter

Applicants appreciate the indication that claims 8-9, 15-16, 19 and 22 contain allowable subject matter. However, Applicants submit that all of the claims are in condition for allowance as discussed below.

Requirement for Corrected Drawings

The Office Action requires corrected drawings because the drawings are informal. Formal drawings are provided in the enclosed Appendix, which includes three Replacement Sheets for figures 1a, 1b, 1c, 2a, 2b, 3 and 4. Applicants respectfully submit that the application's drawings, which include the three attached Replacement Sheets and the four originally filed sheets 4/7, 5/7, 6/7 and 7/7, are now acceptable.

Objection to Claims

In the Office Action, claims 8-9, 15-16, 19 and 22 were objected to as being dependent upon a rejected base claim. While Applicants agree these claims, as well as other dependent claims including at least claims 2, 11-12, 20-21, and 24-26 recite separately patentable subject matter, Applicants respectfully submit that all base claims are allowable based upon the remarks below. Accordingly, dependent, claims 8-9, 15-16, 19 and 22 are allowable at least because of their dependency from an allowable base claim.

Accordingly, Applicants respectfully request withdrawal of the objection for claims 8-9, 15-16, 19 and 22.

Traversal of Rejections Under 35 U.S.C. § 102

Claims 1, 3-7 and 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,120,502 issued to Michelson ("Michelson"). This rejection is respectfully traversed.

A claim may be properly rejected under 35 U.S.C. § 102(b) if, and only if, a single prior art reference discloses each and every feature of the invention as recited in the claim. If the rejected claim recites even one feature that is not disclosed by the prior art reference,

the 35 U.S.C. § 102(b) rejection is improper and must be withdrawn. In this case, the rejection of claims 1, 3-7 and 18 must be withdrawn because Michelson fails to disclose at least one feature recited in each of independent base claims 1 and 18.

Claim 1 recites, *inter alia*, "a power source for generating a current, wherein the current is effective to reduce the growth of a bone." Despite the Examiner's assertions to the contrary, Applicants respectfully submit that Michelson does not disclose or suggest a current that is effective to reduce the growth of a bone. Rather, Michelson, teaches a current that is delivered to *induce* bone growth. Indeed the Summary of Invention section states:

The present invention is directed generally to an apparatus and method for the delivery of electrical current to a surgically implanted device in a location in which *bone growth is desired*. More specifically, the present invention discloses an electrical bone growth promotion (EBGP) spinal fusion implant positioned within the intervertebral space between two adjacent vertebrae of the spine to *promote and induce bone growth in the spinal fusion process*. (Col.2, lines 48-55). (emphasis added)

In fact, Michelson is replete with references to electrical current for inducing or promoting bone growth. To the contrary, Applicants' invention, as defined in at least claim 1, is directed to an entirely different concept, i.e. reducing growth of a bone with current.

While Michelson does discuss inhibiting bone growth to a limited extent, it is not electrical current that inhibits bone growth. Rather, Michelson teaches that a *positive electrical charge* inhibits bone growth (see, e.g., col. 19, lines 54-57). Since current is a function of the time rate of change of electrical charge, as noted by Michelson (col. 8, lines 39-40), Michelson does not disclose or suggest a current that reduces bone growth as claimed herein. This conclusion is further supported by the fact that Michelson's bone growth promotion implant includes control circuitry 70, which "preferably includes a well know means for the delivery of a constant current source, providing a single, preset current

in the range of 0.01 to 20 μ A.” (Col. 9, lines 25-27.) Hence, Michelson’s device provides a single current, and that current promotes bone growth.

Furthermore, Michelson does not disclose or suggest “reducing the growth of a bone.” Rather, Michelson’s device is implanted to promote bone fusion or healing of a fracture. (Col. 16, lines 13-17). In other words, the device is not placed between bones that are growing. It is placed in a location in which bone growth is desired. (Col. 2, lines 50-51). Material may be placed inside the implant to enhance the bone fusion process (col. 8, lines 49-52), and positive electrical charges, i.e., the anode of his device, may be provided to an area where bone fusion is not desired (col. 10, lines 23-31). Hence, Michelson also does not disclose or suggest “reducing the growth of a bone,” as recited in claim 1.

Accordingly, Applicants submit that claim 1 clearly distinguishes over Michelson and that the 35 U.S.C. § 102(b) rejection of claim 1 should now be withdrawn along with the rejection of claims 3-7, which depend from claim 1 and are allowable at least for this reason. Since none of the other prior art of record, either taken alone or in combination, discloses or suggests the invention defined by claim 1, it is respectfully submitted that claim 1, and all the claims that depend therefrom, are in condition for allowance.

Independent claim 18 recites, *inter alia*, “applying a bone growth reducing current to the portion of the vertebrae, wherein the current is effective to reduce growth of the vertebrae” For the reasons noted above with regard to claim 1, Applicants respectfully submit that Michelson does not disclose or suggest at least the step of applying a current that is “effective to reduce the growth of the vertebrae.”

Accordingly, Applicants submit that claim 18 clearly distinguishes over Michelson and that the 35 U.S.C. § 102(b) rejection of claim 18 should now be withdrawn. Since none of the other prior art of record, either taken alone or in combination, discloses or

suggests the invention defined by claim 18, it is respectfully submitted that claim 18, and all the claims that depend therefrom, are in condition for allowance.

Traversal of Rejections Under 35 U.S.C. § 103

Claims 2, 10-14, 17, 20-21, 23-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Michelson. This rejection is respectfully traversed.

Applicants respectfully submit that claim 2 is allowable at least because it depends from an allowable claim 1 and that claims 20-21 and 23-26 are allowable at least because they depend from an allowable claim 18.

Regarding claim 10, the Examiner acknowledges that Michelson does not disclose applying current to the growth plate of a bone, but nevertheless concludes that such a step would be obvious because "rearranging parts of an invention involves only routine skill in the art." (Office Action at page 5). First, the invention defined by claim 10 provides for reducing the growth of a bone by "applying bone growth reducing electrical current to at least a portion of the growth plate of a bone, wherein the current is effective to reduce the growth of the bone in the applied region." For the reasons noted above with regard to claim 1, Applicants respectfully submit that Michelson does not disclose or suggest a current that is effective to reduce the growth of the bone.

Secondly, Applicants submit that there is no suggestion or motivation to modify Michelson as suggested by the Examiner. In fact, Applicants submit that Michelson teaches away from the proposed modification because Michelson teaches an implant for enhancing the bone fusion process or the healing of already grown bones. Accordingly, there is no reason why a person of ordinary skill in the art, confronted with the problem of

reducing bone growth of a growing bone, would modify Michelson, which teaches an implant to promote bone fusion.

Applicants further submit that claim 10 defines an invention involving much more than mere "rearranging of parts of an invention," despite the Examiner's assertion to the contrary, and the lack of any secondary reference is particularly telling of the non-obviousness of the claimed invention. A skilled artisan could not possibly rearrange parts of Michelson to arrive at the invention of claim 10 since Michelson does not disclose or suggest reducing the growth of a growing bone by applying current to a growth plate. Michelson deals with the problems of fusing non-growing bones, not reducing the growth of bones as claimed herein.

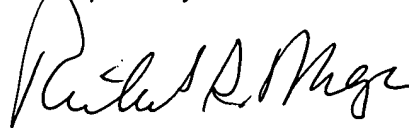
Accordingly, Applicants submit that claim 10 clearly distinguishes over Michelson and that the 35 U.S.C. § 103(a) rejection of claim 10 should now be withdrawn along with the rejection of claims 11-14 and 17, which depend from claim 10 and are allowable at least for this reason. Since none of the other prior art of record, either taken alone or in combination, discloses or suggests the invention defined by claim 10, it is respectfully submitted that claim 10, and all the claims that depend therefrom, are in condition for allowance.

CONCLUSION

Applicants submit that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is thus respectfully requested to pass the above application to issue.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicants' undersigned representative at the number below to expedite prosecution. Prompt and favorable consideration of this Reply is respectfully requested. Applicants respectfully request that a timely Notice of Allowance be issued for this application.

Respectfully Submitted,



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Appendix: Replacement Drawing Sheets 1/7, 2/7, and 3/7

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APPENDIX

REPLACEMENT DRAWINGS

Attached hereto is an Appendix with three Replacement Sheets including formal drawings for figures 1a, 1b, 1c, 2a, 2b, 3 and 4. The header of each Replacement Sheet includes the following information: (i) "REPLACEMENT SHEET", (ii) Application No.: 10/716,862, (iii) Group Art 3762, and (iv) Replacement Sheets filed: November 9, 2005. Consideration of the Replacement Sheets is respectfully requested, and the Examiner is requested to provide an indication of such consideration in the next Office Action.